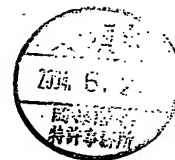


Rec'd PCT/PTO 25 FEB 2005

PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT



WRITTEN OPINION OF THE  
INTERNATIONAL PRELIMINARY  
EXAMINING AUTHORITY

(PCT Rule 66)

To:  
USUI, Shinichi

No.602, Fuji Bldg., 2-3,  
Marunouchi 3-chome,  
Chiyoda-ku, Tokyo 100-0005  
Japan

Date of mailing  
(day/month/year) 22. 6. 2004

Applicant's or agent's file reference  
CFO17501WO

REPLY DUE within 2 months from  
the above date of mailing

International application No.  
PCT/JP03 /10700

International filing date (day/month/year)  
25.08.2003

Priority date (day/month/year)  
28.08.2002

International Patent Classification (IPC) or both national classification and IPC  
Int.Cl. C07C211/61, 211/54, C09K11/06, H05B33/14

Applicant  
CANON KABUSHIKI KAISHA

1. ☐ The written opinion established by the International Searching Authority:  
☐ is ☐ is not  
considered to be a written opinion of the International Preliminary Examining Authority.
2. This \_\_\_\_\_ (first, etc.) opinion contains indications relating to the following items:
  - ☒ Box No. I Basis of the opinion
  - ☐ Box No. II Priority
  - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - ☐ Box No. IV Lack of unity of invention
  - ☒ Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - ☐ Box No. VI Certain documents cited
  - ☐ Box No. VII Certain defects in the international application
  - ☐ Box No. VIII Certain observations on the international application
3. The applicant is hereby invited to reply to this opinion.
 

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(e).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4. For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis. For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary report on patentability (Chapter II of the PCT) must be established according to Rule 69.2 is: 28.12.2004

Name and mailing address of the IPEA/JP

Japan Patent Office

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4H 3036

WRITTEN OPINION OF THE  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

International application No.

PCT/JP 03 / 10700

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This opinion is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this opinion has been established on the basis of *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed.")*:

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_ as originally filed/furnished
- pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- pages \_\_\_\_\_ as originally filed/furnished
- pages \_\_\_\_\_ as amended (together with any statement) under Article 19.
- pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- pages \_\_\_\_\_ as originally filed/furnished
- pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (specify): \_\_\_\_\_

4. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (specify): \_\_\_\_\_

WRITTEN OPINION OF THE  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

International application No.

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Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>3 - 7</u>	YES
	Claims	<u>1, 2, 8</u>	NO
Inventive step (IS)	Claims		YES
	Claims	<u>1 - 8</u>	NO
Industrial applicability (IA)	Claims	<u>1 - 8</u>	YES
	Claims		NO

2. Citations and explanations

D1: KAWAI, M. et al.

'Formation of Intramolecular Exciplexes in Electrogenenerated Chemiluminescence. 2'

THE JOURNAL OF PHYSICAL CHEMISTRY, 1980, Vol. 84, No. 19, p. 2368-2374

D2: JP 2000-273056 A (Idemitsu Kosan Co. Ltd.) 2000.10.03, Claims, [0017]-[0023]

D3: JP 2-190862 A (CANON KABUSHIKI KAISHA) 1990.07.26, Claims, Compound No. 1-23

D4: EP 918259 A2 (CANON KABUSHIKI KAISHA) 1999.05.26, [0036]

D5: JP 4-276760 A (HITACHI KASEI KOGYO KABUSHIKI KAISHA) 1992.10.01, Claims

D6: US 5422210 A (Canon Kabushiki Kaisha) 1995.06.06, Column 13-62

D7: JP 11-184108 A (Canon Kabushiki Kaisha) 1999.07.09, Claims, [0019]-[0022]

D8: US 6387545 B1 (Industrial Technology Research Institute) 2002.03.14, Column 2-6, Claims

D9: JP 1-278789 A (AGENCY OF IND SCIENCE & TECHNOL) 1989.11.09, Claims

D10: US 5989737 A (Xerox Corporation) 1999.11.23, Claims, Column 10 No. (21), Column 11 No. (22)

D11: JP 2001-192651 A (FUJI PHOTO FILM CO., LTD) 2001.07.17, Claims

D12: WO 97/33323 A1 (UNIAX CORPORATION) 1997.09.12, Claims

D13: WO 99/40655 A1 (AVENTIS RESEARCH & TECHNOLOGIES GMBH & CO. KG) 1999.08.12, Claims

D14: JP 2002-8866 A (Toray Industries, Inc.) 2002.01.11, Claims, p. 7

D15: WO 99/40051 A1 (AVENTIS RESEARCH & TECHNOLOGIES GMBH & CO. KG) 1999.08.12, Claims

(1) Novelty: Claim 1

Inventive step: Claim 1

The subject matter of claim 1 does not appear to be novel with respect to D1-9.

The subject matter of claim 1 does not appear to involve an inventive step with respect to D1-9.

Claims 1 related to a monoamino compound represented by the general formula [1]  
D1-9 disclose monoamino compounds which are regarded to fall within the definition of the general formula [1] in the present Claim 1.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: V. 2

(2) Novelty: Claims 2,8

Inventive step: Claims 2,8

The subject matter of claims 2,8 does not appear to be novel with respect to D1,2,8,9. The subject matter of claims 1,2,8 does not appear to involve an inventive step with respect to D1,2,8,9.

Claim 2,8 related to an organic luminescence device using a monoamino compound represented by the general formula [1] in the present Claim 1.

D1,2,8,9 disclose monoamino compounds which are regarded to fall within the definition the general formula [1], and D1,2,8,9 also indicate that above-mentioned monoamino compounds are organic electroluminescent materials.

(3) Inventive Step: Claims 2,8

The subject matter of claims 2,8 does not appear to involve an inventive step with respect to D3-7.

Claim 2,8 related to an organic luminescence device using a monoamino compound represented by the general formula [1] in the present Claim 1.

D3-7 disclose monoamino compounds which is regarded to fall within the definition the general formula [1], and D3-7 also indicate that above-mentioned monoamino compounds are charge-transporting materials

Using a charge-transporting material as an organic electroluminescent material is a common knowledge. Therefore, a person skilled in the art would easily realize the monoamino compounds disclosed in D3-7 are organic electroluminescent materials.

(4) Inventive Step: Claims 3-7

The subject matter of claims 3-7 does not appear to involve an inventive step with respect to D1-15.

D1,2,8,9 disclose tertiary aromatic amines as organic electroluminescent materials. (see (2))

D3-7 disclose the use of tertiary aromatic amines as charge-transporting materials. As a charge-transporting material can be used as an organic electroluminescent material, a skilled person in the art would apply above-mentioned amines for organic electroluminescent materials. (see (3))

D10-15 disclose that polycyclic aromatic hydrocarbon compounds (D10: the formula (22), D11: the general formula (1), D12: FIG.1A-1G, D13: Example 3-6, D14: page 7, D15: Claims) are electroluminescent materials. In particular, D10 discloses that tertiary aromatic amines are known to facilitate hole injection and hole transport, and polycyclic aromatic hydrocarbon compounds incorporate into a tertiary aromatic amine hole transporting layer.

Therefore, a skilled person in the art would easily conceive the idea of incorporating polycyclic aromatic hydrocarbon compounds disclosed in D10-15 with tertiary aromatic amines disclosed in D1-9.